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A Winning Combination

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As “head nerd” for the NFL’s Atlanta Falcons, Karl Pierburg ’98 applies his twin passions for football and complex problem solving.

By TIM OBERMILLER

Seated in the bleachers at IWU’s Tucci Stadium, Karl Pierburg gazes down as a familiar scene unfolds on the bright-green artificial turf. Players and their coaches are busy preparing for the big Homecoming game against conference rival Carthage. The sound of a drill whistle pierces the crisp autumn air. Pierburg — who was team captain and a first-team all-conference offensive lineman for the Titans — smiles, feeling very much in his element.

As the self-professed “head nerd” in charge of information technology for the National Football League’s Atlanta Falcons, Pierburg stays busy before, during and after football season. It was his first visit to campus in many years when he arrived in October to receive this year’s Robert M. Montgomery Outstanding Young Alumnus Award.

When asked how it was he came to work for the Falcons, Pierburg shakes his head slightly, remembering how unlikely it seemed just a few years ago. At the time, he was IT manager for Football Systems with the Chicago Bears, a team he’d loved since childhood. It was a former Bears colleague, now working for Atlanta, who first approached Pierburg about the possibility of moving to the Falcons.

“Working for the Bears was my dream job; I’d just found out my wife was pregnant with our second kid; my family is in Chicago, and I didn’t know anyone south of the Mason-Dixon line,” says Pierburg, listing reasons he turned down the offer. The friend kept in touch, and in May 2005 approached Pierburg with another offer, this time to lead Atlanta’s entire football IT effort. His wife Kathy encouraged him to go for an interview, and Pierburg liked what he saw. He was especially impressed by the organization’s strong sense of teamwork. He told Kathy, “Hey, I think we might be moving.”

“It was a challenge for me professionally,” he says about the decision to move to Atlanta. “It was a challenge for our family,” which has since grown to include three children. “It was tough, there was a lot

of learning there.” One lesson learned is that “every time you confront a challenging situation you should embrace it, because those challenges are going to make you better. So we went, and it’s been an awesome, awesome experience for me and my family.”

Two years after Pierburg’s arrival, the Falcons endured some painful setbacks. Before the 2007 season began, quarterback Michael Vick received a prison sentence for illegal dogfighting. Thirteen games into the same season, new coach Bobby Petrino resigned, returning to college football. Pierburg focuses on the positives about that time “in the bunker.” The shared sense of adversity “helped me build a lot of great relationships” in a way that often doesn’t happen in better times, he says.

With new hirings of both a general manager and head coach and the drafting of quarterback Matt Ryan in 2008, things turned around. Since then, the Falcons have enjoyed five consecutive winning seasons and competed in the playoffs four of those five years. This year could be even better — the team had already clinched its division by week 13 with high hopes for a long run in the post-season.



A four-year letterman in football for the Titans, Pierburg (shown above at Tucci Stadium) majored in math and computer science.

Of course, a possible Super Bowl championship excites him, but Pierburg remains focused on what’s ahead for the team, in its next season and beyond.

Pierburg has formulated a “two-second answer” to describe what he does. It is, he says, “the intersection of nerd and football. Anywhere where those two come together, that’s where I try to put myself.”

At 6-foot-3, Pierburg looks a lot more like the tough-as-nails offensive lineman he once was than he does the stereotypical nerd. That’s likely a plus for him when dealing with NFL coaches and managers — as is having played the game.

At William Fremd High School in Palatine, Ill., Pierburg was a stand-out on both the offensive and defensive lines. He also lettered in wrestling. Though he had decided to hang up his football

It was fun playing football for the Titans, but it was more than that. “There are lessons you learn on a football field that cannot be replicated and may have forever transformed me, so I’m fortunate for that,” says Pierburg.

“But make no mistake,” he adds, “football is my passion but it’s not my main passion. My main passion is solving problems and developing systems, and that was nurtured here at Illinois Wesleyan.”

A math and computer science double major, Pierburg speaks with fondness and respect of two of his professors who passed away this fall: Larry Stout and Susan Anderson-Freed.

In courses such as “Mathematical Modeling,” taught by Professor Zahia Drici, Pierburg learned how to take “a real-life problem that seems way too big and complicated to ever solve numerically, but it’s not if you start breaking it down.”

The same was true of Melvyn Jeter’s “Topology,” a 400-level course where “it was all about tearing down problems, figuring out how they work and then building them back together — kind of like an engine.” Pierburg calls Jeter, who chairs Wesleyan’s math department, “my most influential teacher.” But he credits all his IWU professors for “how my brain works, how I think. I know they may not want that on their shoulders, but there it is.”

A summer internship his junior year gave him a taste of corporate problem-solving. After graduation, he became an IT consultant. The idea of “being able to solve a problem and then move on to the next” appealed to him, especially when overseas trips allowed him to sample other parts of the world.

One day, “out of the blue,” he got a call from a former colleague who said, “Hey, I got a job opening at the Bears. Would you be interested?” His response: “Are you kidding?”

As part of the Bears’ IT team, Pierburg focused on helping the team’s college scouts. “I built them some software and tools to gather scouting reports and player information,” with the ability to send that data “backwards and forwards” through the Bears’ hierarchy.

“Basically,” says Pierburg, “I was trying to make their lives a little easier.”

It’s a mission he’s continued as the Falcons’ director for Football Systems. Pierburg designs information systems that enable directors, coaches and scouts to make well-informed decisions and help his team compete in a league where winning is everything.

That pressure to win has grown along with pro football’s popularity: currently six in 10 Americans follow the NFL. Profits are also soaring, with league revenues projected at \$9.5 billion for 2012. “So when you get popularity and you get money, that brings together a very interesting place to work,” Pierburg says.

“You end up working with some very driven people — type A is an understatement. There are egos, sure, but they are proven egos, so it’s legitimate. Their success and their ability to stay employed rest on their ability to win. So it’s a very intense place to work, but it’s also a very fun place to work.”

The fusion of football and IT is relatively new. In the past, the NFL was notoriously shy about embracing new technology. On his blog for the Football Educator website, former Denver Broncos general manager Ted Sundquist recalled arriving in the personnel department in 1992 to find just one PC “that did nothing but blink a green cursor on a black screen for hour after hour. The tracking of transactions and players was done by hand and on paper.”

That’s quickly changing. According to a Dec. 16, 2011, *Wall Street Journal* article, “The league has been meeting with technology and communications companies to brainstorm how to bring the league into the 21st century. Every technological advancement you can imagine is on the table.”

All that new technology is great, Pierburg says, but only if an individual scout, manager or coach actually uses it. For any device or application he introduces, he uses what he calls the pen and paper rule. “Everyone knows how to use pen and paper. And if it doesn’t work, they know how to trouble-shoot it. Any system you design has to meet those same two requirements.”

And then there's the rule about asking a coach to do anything, which is "that's that you *don't* ask a coach to do anything." It is a rule he's cautiously willing to break, but only "if I can show a coach that what I'm asking him to do will save him time. The currency of the NFL is time, and that is why you make every single decision."

One example is a web-based system he designed for Falcons coaches to grade players' performances. One coach resisted, telling Pierburg he just felt more comfortable using paper. "It's a legitimate response, and for me to come in and say, look, you've got to move on, time's are a'changin' — you're not going to make progress that way." Instead, he sat down and graded alongside the coach — Pierburg on his computer and the coach using graph paper. "It was a great chance for us to talk and kind of bond." At the same time, the coach saw how easy it was to store, access and make better use of data on the web-based system. He told Pierburg, "All right, that's it. I'm done. I'm going to do it your way next time."

Pierburg enjoys his personal interactions with Falcons' personnel, but much more of his time is consumed with leading the charge through mountains of data that his department must sift through, verify and adapt into useful and accessible information.

"My goal is: you're the GM, you're the personnel director — I'm going to make sure you have the data you need, when you need it, where you need it, and that that data's going to be good. I'm going to guarantee that you're going to have that in front of you and let *you* go forward and confidently make decisions based on *your* training and *your* life experiences."

Pierburg gets asked a lot about whether his job is like *Moneyball*. Now a common term in sports, "Moneyball" has its origins in a book and movie of the same name about baseball's 2002 Oakland A's. "Moneyball is basically identifying key stats and key measurements and using them to predict performance, so you can make decisions based on it," says Pierburg. His problem with linking *Moneyball* to his job is the suggestion that statistical analysis has replaced instinct and experience in judging which players are right for his team.

He refers to the 2005 book *Blink* in which journalist Malcolm Gladwell asserts that experts often make better decisions with snap judgments than by analyzing huge stockpiles of data. Pierburg has seen it with the Falcons' personnel directors. Based on their years of experience, they can watch a highlights tape on a player "and say, after 10 plays, 'Okay, this guy can play.' Now you have to continue and finalize all your research to be able to quantifiably say why you like that player or why you don't, but 'blink' is a factor."

It's also true that, as "a more linear and controlled game," baseball is a better fit for the *Moneyball* model of evaluating players, Pierburg adds. In contrast, "football is 22 points of chaos, 160 times a game." That can make it hard to track a given player's performance. For example, you may see a cornerback on your



Pierburg was introduced at the Homecoming game, along with fellow Alumni Award winners Elizabeth Robb '78 and Coyner Smith '54, as well as this year's Homecoming queen and king seniors Sarah Walding and Kevin Carey. (Photo by Marc Featherly)

favorite team trailing behind an opponent's receiver on a deep pass and assume he blew his coverage, "when in reality it was the safety who screwed up," Pierburg explains.

Still, Pierburg is confident the data he provides is a huge help in sorting out the pros and cons of potential players. That data flows in from many sources such as scouting reports and game video as well as the NFL Scouting Combine, an annual event where college players audition by performing physical and mental tests in front of pro coaches, general managers and scouts.



Teaching a "Back to College" class at Homecoming, Pierburg showed how massive data compiled by his department is distilled into color-coded boxes used by coaches and managers to make crucial decisions on prospective players.

In a "Back to College" class taught for alumni and students at this year's Homecoming, Pierburg gave examples of how all that data is compiled and condensed into a "one-stop shop" for his team's decision-makers. In The Ames Library's Beckmann Auditorium, he projected various screen shots from his laptop to demonstrate the ease in accessing data. Colored dots indicate different things about a particular draft prospect: a light-blue dot means he's "a solid player — it's not dark blue, which means top-end, but he's close to that." An orange dot means he went to an all-star game, a yellow one indicates a background check found nothing wrong.

While there is a seemingly infinite number of ways to use such data, deciding which are important is something that can only be done by sitting down with Falcons' management and coaching staffs to ask, "What do you really need?" You've got to listen and respond. They won't give you a list, but they'll tell you if you listen."

That doesn't mean being passive, Pierburg adds. One lesson he passed along to students attending his "Back to College" class is that "life doesn't give you a checklist to success or how to move up in the world. You've got to put that on yourself, and you've got to pay attention to what's going on around you. You have to know your data first. But when you know your data, put it to work. *Do* something; don't just expect to be told what to do."

That's something liberal arts graduates are usually good at, he's observed. "My IT computer-science training here at Wesleyan did not qualify me to walk into a job and say, 'Okay, I can program in this language that you need. Hire me.' But it taught me how to think and how to go and how to build and how to do. It set me up for a whole career here, and I'm not just pigeonholed into some kind of one-tier track. It's a whole broad horizon."

Playing football at a Division III level may have provided another, less expected advantage in pursuing a career in pro football, Pierburg says. "There are an unusually large amount of Division III athletes in the front office of football teams. In our department alone, I can think of three or four off the top of my head."

New England Patriots Coach Bill Belichick “has actually said that he looks for those D3-type people for his front office because we don’t play this game to get a scholarship,” says Pierburg. “We play because we love the game of football and we love the teamwork — we love all that stuff about it.”

The sense of teamwork he felt as a Titan is still what Pierburg loves most about working for a pro football team. “There’s only one checkbox for success in the NFL and that’s, ‘Hey, we need to win a ball game.’ That’s the only box you get and figuring out how you get there — that’s where you get into the creativity of coming together as a team to find the solution.

“It’s just like everything else in life,” he says. “You’ve got to be prepared to get better every single day — otherwise, someone’s going to beat you.”